

CLAIMS

1. Photosensitive dispersion with adjustable viscosity for the deposition of metal on an insulating substrate, characterised in that it comprises, in combination, a pigment conferring properties of oxidation-reduction under light irradiation, a metallic salt, a sequestering agent for the metallic salt, a liquid film-forming polymeric formulation, a basic compound, an organic solvent and water.
2. Dispersion according to Claim 1, characterised in that the said pigment is titanium dioxide.
3. Dispersion according to Claim 2, characterised in that the titanium oxide pigment is in the form of a powder with a particle size of 10 nanometres to 10 micrometres, advantageously from 15 nanometres to 1 micrometre.
4. Dispersion according to any one of Claims 1 to 3, characterised in that the metallic salt is a transition metal salt.
5. Dispersion according to Claim 4, characterised in that the transition metal is chosen from the group comprising copper, gold, platinum, palladium, nickel, cobalt, silver, iron, zinc, cadmium, ruthenium and rhodium.
6. Dispersion according to Claim 5, characterised in that the transition metal salt is chosen from amongst copper (II) chloride, copper (II) sulphate, palladium (II) chloride, nickel (II) chloride and mixtures of at least two of these.

7. Dispersion according to any one of Claims 1 to 6, characterised in that the sequestering agent for the metallic salt is of the sulphate, chloride or carboxylic acid type.
- 5 8. Dispersion according to Claim 7, characterised in that the sequestering agent of the carboxylic acid type is tartaric acid, citric acid, a derivative of these or a mixture thereof.
9. Dispersion according to any one of Claims 1 to 8, characterised in that
10 the liquid film-forming polymeric formulation is a solution or emulsion.
10. Dispersion according to Claim 9, characterised in that it comprises, as a film-forming polymeric formulation, a solution of the alkyl, acrylic, polyester or epoxy type, an acrylic emulsion or a mixture of these.
- 15 11. Dispersion according to any one of Claims 1 to 10, characterised in that the basic compound is a base, a basic salt or a mixture of these.
12. Dispersion according to Claim 11, characterised in that the basic
20 compound is a base chosen from amongst potassium hydroxide, sodium hydroxide and ammonia.
13. Dispersion according to any one of Claims 1 to 12, characterised in that the organic solvent is chosen from a group comprising ethers, esters,
25 ketones, alcohols and mixtures thereof.
14. Dispersion according to Claim 13, characterised in that the organic solvent is chosen from amongst dioxane, cyclohexanone, 2-methoxy-1-methylethyl acetate, a mixture of dipropylene glycol methyl ether isomers,
30 a mixture of tripropylene glycol methyl ether isomers and mixtures of at least two of these.

15. Dispersion according to any one of Claims 1 to 14, characterised in that it comprises deionised water.
- 5 16. Dispersion according to any one of Claims 1 to 15, characterised in that it comprises in addition at least one wetting agent, a dispersing agent or a mixture of these.
- 10 17. Dispersion according to any one of Claims 2 to 16, characterised in that the concentration of titanium dioxide, as a percentage by weight, is 1% to 50% and preferably 5% to 25%.
- 15 18. Dispersion according to any one of Claims 1 to 17, characterised in that the concentration of metallic salt, as a percentage by weight, is 0.01% to 5% and preferably 0.05% to 1%.
- 20 19. Dispersion according to any one of Claims 1 to 18, characterised in that the concentration of sequestering agent, as a percentage by weight, is 0.01% to 10% and preferably 0.1% to 1%.
- 25 20. Dispersion according to any one of Claims 1 to 19, characterised in that the concentration of film-forming polymeric formulation, as a percentage by weight, is 1% to 50% and preferably 5% to 25%.
- 30 21. Dispersion according to any one of Claims 12 to 20, characterised in that the concentration of base, as a percentage by weight, is 0.01% to 5% and preferably 0.1% to 1%.
22. Dispersion according to any one of Claims 1 to 21, characterised in that the concentration of organic solvent, as a percentage by weight, is 0.1% to 55% and preferably 1% to 40%.

23. Dispersion according to any one of Claims 1 to 22, characterised in that the concentration of water, as a percentage by weight, is 1% to 15%.

- 5 24. Method of depositing metal on the surface of an insulating substrate, using the photosensitive dispersion according to any one of Claims 1 to 23, characterised in that it comprises the application of the said dispersion in the form of a film on the substrate, selectively or not, the drying of the film applied to the said substrate and irradiation by means of ultraviolet
10 radiation and/or laser with a range of wavelengths between 190 and 450 nm and an energy between 25 mJ/cm² and 100 mJ/cm² until a layer of metal, selective or not, is obtained on the substrate.

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